

Title (en)  
Optical multiplexer having flat passbands

Title (de)  
Optischer Multiplexer mit flacher Durchlasscharakteristik

Title (fr)  
Multiplexeur optique avec une bande passante plate

Publication  
**EP 0875776 A2 19981104 (EN)**

Application  
**EP 98303056 A 19980421**

Priority  
US 84102197 A 19970429

Abstract (en)  
A wave division multiplexer (WDM) 500 includes a pair or star couplers 1, 2 that are interconnected by a grating 50 having a number of unequal-length waveguides. One group 501 of the unequal-length waveguides has lengths that differ from each other by multiples of a predetermined length (  $\Delta L_1$  ), while another group 502 has lengths that differ from each other by multiples of a different predetermined length (  $\Delta L_2$  ). In a preferred embodiment, the two groups of waveguides are interleaved, and the following equations apply:  $L_1 = L_0 + m \Delta L_1$  where  $L_0$  is the length of a central waveguide 51 in the grating. In another embodiment, the group 1 waveguides are positioned on one side of the central waveguide while the group 2 waveguides are positioned on the other side of the central waveguide. In this embodiment, the following equations apply:  $L_2 = L_0 + n \Delta L_2$  In both embodiments, the passbands of the WDM are flatter than conventional Gaussian passbands associated with such devices. <IMAGE>

IPC 1-7  
**G02B 6/287**; **G02B 6/124**

IPC 8 full level  
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CPC (source: EP)  
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Cited by  
CN113867085A; US9520949B2; US10014949B1; US9432121B2; US10147666B1; US10476598B1; US11018772B1

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